

SCOPE & DEFINITIONS

This chapter contains criteria for the management of medical waste at DoD medical, dental, research and development, and veterinary facilities generated in the diagnosis, treatment, or immunization of human beings or animals or in the production or testing of biologicals subject to certain exclusions. This also includes mixtures of medical waste and hazardous waste. It does not apply to what would otherwise be household waste.

Infectious Agent – Any organism (such as a virus or a bacterium) that is capable of being communicated by invasion and multiplication in body tissues and capable of causing disease or adverse health impacts in humans.

Infectious Hazardous Waste – Mixtures of infectious medical waste and hazardous waste to include solid waste such as fluid from a parasitology laboratory.

Infectious Medical Waste – Solid waste produced by medical and dental treatment facilities which is specially managed because it has the potential for causing disease in man and may pose a risk to both individuals or community health if not managed properly, and which includes the following classes:

- Microbiology waste, including cultures and stocks of etiologic agents that, due to their species, type, virulence, or concentration, are known to cause disease in humans.
- Pathology waste, including human tissues and organs, amputated limbs or other body parts fetuses, placentas, and similar tissues from surgery, delivery, or autopsy procedures. Animal carcasses, body parts, blood, and bedding are also included.
- Human blood and blood products (including serum, plasma, and other blood components), items contaminated with liquid or semi-liquid blood or blood products, and items saturated or dripping with blood or blood products, and items caked with blood or blood products, that are capable of releasing these materials during handling.
- Potentially infectious materials including human body fluids such as semen, vaginal secretions, cerebrospinal fluid, pericardial fluid, pleural fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.
- Sharps, including hypodermic needles, syringes, biopsy needles and other types of needles used to obtain tissue or fluid specimens, needles used to deliver intravenous solutions, scalpel blades, pasteur pipettes, specimen slides, cover slips, glass petri plates, and broken glass potentially contaminated with infectious waste.
- Infectious waste from isolation rooms, but only including those items which were contaminated or likely to be contaminated with infectious agents or pathogens to include excretion exudates and discarded materials contaminated with blood.

Noninfectious Medical Waste – Solid waste created that does not require special management because it has been determined to be incapable of causing disease in man or which has been treated to render it noninfectious.

Solid Waste – Any solid waste as defined in Chapter 7 (Solid Waste).

Treatment (of Medical Waste) – Any method, technique, or process designed to change the physical, chemical, or biological character or composition of any infectious hazardous or infectious waste so as to render such waste non-hazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume. Treatment methods for infectious waste must eliminate infectious agents so that they no longer pose a hazard to persons who may be exposed.

Waste – Any substance or object in the categories listed in the European Waste Catalog (FGS Appendix B.1) which the holder discards, intends to discard, or is required to discard.

CRITERIA

C8.1 SEPARATION OF MEDICAL WASTE

Infectious medical waste will be separated from other solid waste at the point of origin.

C8.2 MIXTURES OF INFECTIOUS MEDICAL WASTE & HAZARDOUS WASTE

Mixtures of infectious medical waste with any other waste will be avoided to the maximum extent possible. If accidental mixing does occur, the resultant waste will be handled and disposed of as infectious hazardous waste under DoD Directive 4160.21M and are the responsibility of the generating DoD Component. Priority will be given to the hazard that presents the greatest risk. Defense Reutilization and Marketing Offices (DRMOs) have no responsibility for this type of waste until it is rendered noninfectious as determined by the appropriate DoD medical authority.

C8.3 SOLID WASTE

Solid waste that is classified as a hazardous waste in accordance with Appendix B1 will be managed in accordance with the criteria in Chapter 6. Solid waste that is comparable to municipal solid waste (as defined in Chapter 7) will be managed and disposed of in accordance with Chapter 7.

C8.4 MIXTURES OF OTHER SOLID WASTE

Mixtures of other solid waste and infectious medical waste will be avoided to the maximum extent possible. If accidental mixing does occur, the resultant waste will be handled as infectious medical waste.

C8.5 RADIOACTIVE WASTE

Radioactive medical waste will be managed in accordance with Service Directives.

C8.6 INFECTIOUS MEDICAL WASTE RECEPTACLES

Infectious medical waste will be segregated, transported, and stored in bags or receptacles a minimum of 3 mils thick having such durability, puncture resistance, and burst strength as to prevent rupture or leaks during ordinary use.

C8.7 MARKING OF STORAGE BAGS

All bags or receptacles used to segregate, transport, or store infectious medical waste will be clearly marked with the universal biohazard symbol and the word "BIOHAZARD" and will include marking that identifies the generator, date of generation, and the contents. Bags or receptacles containing medical waste that is classified as hazardous waste will also comply with the applicable labeling requirements in Chapter 6 (Hazardous Waste).

C8.8 SHARPS DISPOSAL

Sharps will only be discarded into rigid receptacles. Needles shall not be clipped, cut, bent, or recapped before disposal.

C8.9 HUMAN EXPOSURE

Infectious medical waste will be transported and stored to minimize human exposure, and will not be placed in chutes or dumbwaiters.

C8.10 COMPACTION

Infectious medical waste will not be compacted unless converted to noninfectious medical waste by treatment as described in C8.17. Containers holding sharps will not be compacted.

C8.11 ANATOMICAL PATHOLOGY WASTE

All anatomical pathology waste (i.e., large body parts) must be placed in containers lined with plastic bags that comply with C8.6, and may only be disposed of by burial after being treated for disposal by incineration or cremation.

C8.12 BLOOD & LIQUID INFECTIOUS WASTE

Blood, blood products, and other liquid infectious wastes will be handled as follows:

- C8.12.1 Noninfectious bulk blood or blood products may be decanted into clinical sinks; the emptied containers will be managed as infectious medical waste and disposed of in accordance with C8.17
- C8.12.2 Suction canister waste from operating rooms will be sealed into leak-proof containers and incinerated
- C8.12.3 Potentially infectious liquid wastes will be disposed of in accordance with C8.17

C8.13 PROTECTIVE APPAREL

All personnel handling infectious medical waste will wear appropriate protective apparel or equipment such as gloves, coveralls, mask, and goggles sufficient to prevent the risk of exposure to infectious agents or pathogens.

C8.4 MANAGEMENT OF STORED WASTE

If infectious medical waste cannot be treated on-site, it will be managed during storage as follows:

- C8.14.1 Infectious medical waste will be maintained in a non-putrescent state, using refrigeration as necessary.
- C8.14.2 Infectious medical waste with multiple hazards (i.e., infectious hazardous waste, or infectious radioactive waste) will be segregated from the general infectious waste stream when additional or alternative treatment is required.

C8.15 STORAGE SITES

Storage sites must be:

- C8.15.1 Specifically designated
- C8.15.2 Constructed to prevent entry of insects, rodents, and other pests
- C8.15.3 Prevent access by unauthorized personnel
- C8.15.4 Marked on the outside with the universal biohazard symbol and the word "BIOHAZARD" in both English and Greek

C8.16 TRANSPORTATION CONTAINERS

Bags and receptacles containing infectious medical waste must be placed into rigid or semi-rigid, leak-proof containers before being transported off-site.

C8.17 TREATMENT

Infectious medical waste must be treated in accordance with Table 8.1 and the following before disposal:

- C8.17.1 Sterilizers must maintain the temperature at 121°C (250°F) for at least 30 minutes at 15 psi.
- C8.17.2 The effectiveness of sterilizers must be checked at least weekly using *Bacillus stearo thermophilus* spore strips or an equivalent biological performance test.
- C8.17.3 Commercial incinerators used to treat medical waste must hold a valid Greek operating permit. The incinerator must be designed and operated to maintain a minimum temperature and retention time sufficient to destroy all infectious agents and pathogens, and must meet applicable criteria in Chapter 2 for air emissions.

Installations that intend to operate a medical waste incinerator will provide the Greek Representative with sufficient information to seek an operating permit for their unit (see Chapter 1 for the process). An environmental impact assessment must be submitted with the permit request.

- C8.17.4 Ash or residue from the incineration of infectious medical waste must be assessed for classification as hazardous waste in accordance with the criteria in Chapter 6. Ash that is determined to be hazardous waste must be managed in accordance with Chapter 6. All other residue will be disposed of in a landfill that complies with the criteria of Chapter 7.
- C8.17.5 Chemical disinfection must be conducted using procedures and compounds approved by appropriate DoD medical authority for use on any pathogen or infectious agent suspected to be present in the waste.

C8.18 CONTINGENCY PLANS

Installations will develop contingency plans for treatment or disposal of infectious medical waste, in case the primary means become inoperable.

C8.19 SPILLS

Spills of infectious medical waste will be cleaned up as soon as possible in accordance with the following:

- C8.19.1 Response personnel must comply with C8.13
- C8.19.2 Blood, body fluid, and other infectious fluid spills must be removed with an absorbent material that must then be managed as infectious medical waste.
- C8.19.3 Surfaces contacted by infectious medical waste must be washed with soap and water and chemically decontaminated in accordance with C8.17.5

C8.20 RECORD-KEEPING

Installations will keep records, for at least 3 years after the date of disposal, of the following information concerning infectious medical waste. A copy of the information should be submitted to the Greek Representative on an annual basis. The Greek Representative may forward the information to the competent authorities.

- C8.20.1 Type of waste
- C8.20.2 Amount of waste (volume or weight)
- C8.20.3 Treatment, if any, including date of treatment
- C8.20.4 Disposition, including date of disposition, and if the waste is transferred to Greek facilities, receipts acknowledging C8.20.1 through C8.20.3 for each transfer

ADMINISTRATIVE ITEMS

1. Installations that intend to operate a medical waste incinerator will provide the Greek Representative with sufficient information to seek an operating permit for their unit (see Chapter 1 for the process). An environmental impact assessment must be submitted with the permit request.

Table 8.1 – Treatment & Disposal Methods for Infectious Medical Waste

Type of Medical Waste	Method of Treatment	Method of Disposal
Microbiological	Steam sterilization ¹	Hazardous waste landfill (HWLF) ²
	Chemical disinfection	HWLF ²
	Incineration	HWLF ²
Pathological	Incineration ³	HWLF ²
	Cremation ³	HWLF ²
Bulk blood & suction canister waste	Incineration ⁴	HWLF ²
Sharps in sharps containers	Incineration	HWLF ²

Notes:

1. Preferred method for cultures and stocks because they can be treated at point of generation.
2. As defined in Chapter 6. See C6.10.6 for the land disposal requirements.
3. Anatomical pathology waste (i.e., large body parts) must be treated either by incineration or cremation prior to disposal.
4. Potentially infectious bulk blood or suction canister waste must be treated by incineration before disposal.